

PATENT CLAIMS

1. Transmitter comprising

- a sensor (1),
- that serves to register a physical quantity (X) and convert such into an electrical quantity,
- an electronics (3),
- that converts the electrical quantity into a measurement signal and
- that makes the measurement signal available over an electrical current-loop output in the form of a signal current (I) corresponding to the physical quantity, and
- a pick-up unit (13),
- having a magnetoresistive element (15),
- whose resistance changes as a function of the magnetic flux (Φ) produced by the signal current (I).

2. Transmitter as claimed in claim 1, wherein a regulating circuit (7, 7a) is provided for adjustment of the signal current (I) as a function of the measurement signal.

3. Transmitter as claimed in claim 1, wherein the regulating circuit (7) has a transistor (9), that is turned-on in operation by a measured-value-dependent control signal (11) generated by the electronics (3).

4. Transmitter as claimed in claim 1, wherein the pick-up unit (13) is galvanically separated from the electrical current output.

5. Transmitter as claimed in claim 1, wherein the instantaneous signal current registered by means of the pick-up unit (13) is fed to the regulating circuit (7, 7a) for the regulating of the physical-quantity-dependent, signal current (I).

6. Transmitter as claimed in claim 1, wherein a regulating behavior of the regulating circuit (7a) is adjustable by one or

more adjustment variables (K1, K2, K3).

7. Transmitter as claimed in claim 6, wherein the adjustment variables (K1, K2, K3) are stored in a memory (19) and are digitally adjustable.

8. Transmitter as claimed in claim 6 or 7, wherein the regulating circuit (7a) is embodied as an integrated circuit, or wherein the regulating circuit (7a) and the pick-up unit (13) are embodied as an integrated circuit.

9. Transmitter as claimed in claim 8, wherein the integrated circuit also contains a circuit part (21), which generates from the signal current (I) a supply voltage (V) for the transmitter or parts thereof.